

Legendre multi-wavelets direct method for solving Fredholm integral equations of the second kind

ABSTRACT

In this paper, We use the continuous Legendre multi-wavelets on the interval $[0, 1)$ to solve Fredholm integral equations of the second kind. To do so, we reduced the solution of Fredholm integral equation to the solution of algebraic equations. Illustrative examples are included to show the high accuracy of the estimation, and to demonstrate validity and applicability of the technique.

Keyword: Fredholm integral equation; Legendre multi-wavelets; Multiresolution of analysis